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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,647	08/07/2001	Roman J. Hamerski	12263.15	1145

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EXAMINER
SOWARD, IDA M

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/923,647	HAMERSKI ET AL.	
	Examiner	Art Unit	
	Ida M Soward	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-21 and 24* is/are pending in the application.

4a) Of the above claim(s) *16-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-15,21 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This Office Action is in response to the Applicants' amendment filed June 20, 2003.

Double Patenting

The nonstatutory double patenting rejection has been withdrawn due to the amendment filed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-9, 12, 15, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blackstone et al. (5,164,813).

Blackstone et al. teach an electrical semiconductor device comprising: an epitaxial layer **361** of relatively high resistivity material of one conductivity type and having opposing first and second surfaces, wherein the second surface is etched, and the dopant region **295** is diffused in the second surface of the epitaxial layer **293**; the etched second surface of the epitaxial layer of relatively high resistivity material forms a

well that reduces an area of the relatively high resistivity material in the second surface of the epitaxial layer of relatively high resistivity material to reduce a resulting electric field; the second surface of the epitaxial layer of relatively high resistivity material receives a lesser amount of diffused material to form a well that reduces an area of the relatively high resistivity material in the second surface of the epitaxial layer of relatively high resistivity material to reduce a resulting electric field; a substrate **360** of relatively low resistivity material of a conductivity type opposite to the one conductivity type and having a surface substantially contiguous to the firs surface of the epitaxial layer; and a dopant region **365** of relatively low resistivity material of the one conductivity type having a surface substantially contiguous to the second surface of the epitaxial layer. In regard to how the layer was grown and how the silicon oxide mask is applied, note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 UPSQ 289 (CAFC); and most recently, In re Thorpe et al., 227 UPSQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether clamed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

was made to modify diode structure of the epitaxial layer second surface of Figure 34 by incorporating the epitaxial layer second surface of Figure 24 as taught by Blackstone et al. to obtain a resistance to mechanical, thermal and reverse breakdown stresses.

Claims 10-11 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blackstone et al. (5,164,813) as applied to claim s 6-9, 12, 15 and 24 above, and further in view of Hamerski (US 2002/0163059 A1).
Blackstone et al. and Hamerski teach all mentioned in the rejection above. However, Blackstone et al. and Hamerski fail to teach an epitaxial region including a germanium stress-relieving dopant. Hamerski teaches an epitaxial region including a germanium stress-relieving dopant (page 4, claims 10-11). Since Blackstone et al. and Hamerski are both from the same field of endeavor (high voltage diodes), the purpose disclosed by Hamerski would have been recognized in the pertinent art of Blackstone et al. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the high voltage diodes of Blackstone et al. by incorporating the germanium stress-relieving dopant of Hamerski to increase operational voltage. Blackstone et al. and Hamerski disclose a central well for each individual device.

Response to Arguments

Applicant's arguments filed 06-20-03 have been fully considered but they are not persuasive. In regard to the remarks on page 6 concerning etching, note that a "product

by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Fitzgerald, 205 USPQ 594, 596 (CCPA); In re Marosi et al., 218 UPSQ 289 (CAFC); and most recently, In re Thorpe et al., 227 UPSQ 964 (CAFC, 1985) all of which make it clear that it is the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that, as here, an old or obvious product produced by a new method is not patentable as a product, whether clamed in "product by process" claims or not. Note that Applicant has burden of proof in such cases as the above case law makes clear. Since the Blackstone et al. and Hamerski are from the same field of endeavor (high voltage diodes), the purpose disclosed by Hamerski would have been recognized in the pertinent art of Blackstone et al. Blackstone et al. (Figure 34) and Hamerski (Figures 1 and 4) disclose a central well for each individual device and reduced distance between the layers 360 & 361 of Blackstone et al. and 22 & 24 of Hamerski, but the claims are void of the limitation that a conductive layer can be introduced into the well. In regard to the remarks on page 7 concerning the reduction of the electric field, claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263, F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a devices is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M Soward whose telephone number is 703-305-3308. The examiner can normally be reached on Monday - Thursday, 6:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ims

August 26, 2003

AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800